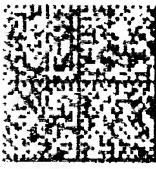


TELE

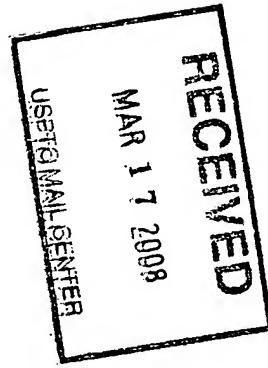
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JH

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,831	11/20/2003	Hironori Kakiuchi	890050.449	8570
500	7590	03/13/2008	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			ANGEBRANNDT, MARTIN J	
701 FIFTH AVE			ART UNIT	PAPER NUMBER
SUITE 5400			1795	
SEATTLE, WA 98104			MAIL DATE	DELIVERY MODE
			03/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



## Office Action Summary

	Application No.	Applicant(s)
	10/717,831	KAKIUCHI ET AL.
Examiner	Art Unit	
Martin J. Angebranndt	1795	

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 12/20/2007.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 1-3,7,10,13,16,19,22 and 25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,7,10,13,16,19,22 and 25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/11/2007.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

1. The response of the applicant has been read and given careful consideration. Response to the arguments and amendments are presented after the first rejection to which they are directed. The applicant requested a copy of the IDS of 5/11/07 with references BG through BJ initialed. This is included in this mailing. While the references may be of recording in the other applications, if they were not applied in a rejection but only provided by the applicant as part of a large IDS, their relevance may be somewhat limited.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3,7,10,13,16,19,22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy et al. '160, in view of Sakaue et al. '587 and Takaoka et al. '321. Shuy et al. '160 teach in embodiment 4, a medium comprising a polycarbonate substrate, a ZnS-SiO<sub>2</sub> layer, a transparent Si first recording layer, a reflective Si-Au second recording layer and a ZnS-SiO<sub>2</sub> layer. The ZnS-SiO<sub>2</sub> layers are thermal manipulation layers [0030]. The reflective recording layer may be Ag, Al, Au, Pt, U, IN, Sn, W, Ir, Re, Rh or Ta [0027]. The transparent recording layer may be Si, Ge, GaP, GaAs, InAs, ...[0026].

Sakaue et al. '587 in the recording medium of working example 1, where Ta<sub>2</sub>O<sub>5</sub> sputtered in a mixture of Ar and N<sub>2</sub> to form the barrier layer [0061] between the recording layer and the reflective layer or dielectric layers. [0036,0054-0062]. The use of other materials including GeON, SiON or AlON in place of the TaON is disclosed. [0068]. See also example 3, and the

examples described in table 3 [0079-0089]. The use of TaON yields a better signal amplitude, reduced corrosion and improved thermal conductivity (heat dissipation). [0072-0073].

Takaoka et al. '321 (US equivalent of JP 60-160036 cited by applicant) teaches optical recording media where the recording layer is a bilayer which is alloyed upon irradiation. Useful first layer materials are Ge, Te, Bi, Tl and alloys thereof and useful second layer materials are different from those of the first layer and may be selected from Te, Bi, Sb, Ag, In and alloys thereof. (2/49-63). Figures 9 and 10 show embodiments where there are two recording layers, which doubles the recording capacity of the media. (4/60-5/9).

It would have been obvious to modify the cited examples of Shuy et al. '160 by using Ta-O-N as thermal manipulation layers in place of a portion of the thickness of the ZnS-SiO<sub>2</sub> layers directly adjacent the recording layer with a reasonable expectation of improving the performance characteristics based upon the disclosure of Sakaue et al. '587 and further, it would have been obvious to modify the resulting optical recording media by forming a medium with two recording layers are included in a single medium structure to increase (double) the recording capacity as shown in Takaoka et al. '321 with a reasonable expectation of success based upon figures 9 and 10.

Further it would have been obvious to use Si or Ge for the first recording layer and Cu and alloys thereof with Al, Ag, Au or Sn for the second layer based upon the direction within Shuy et al. '160 to these materials and the direction within Takaoka et al. '321 to the use of alloys in each of the layers.

**The addition of Takaoka et al. '321 addresses the multiple recording layer limitations set forth in claim 1. The replacement of at least a portion of the ZnS-SiO<sub>2</sub> layers**

**on both sides of the recording composite places the recited layer on the light incident side of the recording composite. The advantages in the transmissivity of the dielectric layers seems to be at 6-10% [0173] for tanatala and 1.7 to 4,5 for titania [0187]. This is not recited in the claims, but should be. With respect to the relative performance of the media (example 3), there seems to be an optimization in the thickness of the dielectric layers and the applicant might consider either including limitations stating thicknesses or minimum performance to exclude the prior art of record.**

While the examples of Sakaue et al. '587 discloses the use of the oxynitride layers as a barrier layer on **both** sides of the recording layer as it is a barrier layer, irrespective of what may be illustrated or discussed in an example. The claims do not preclude the use of the oxynitride layers on both sides of the recording layer due to the use of open "comprising" language in the claims and the rejection discusses placing them between the recording layer and the dielectric layers to prevent migration of materials into or out of the recording layer as taught by Sakaue et al. '587. Claim 3 recites that the dielectric is ZnS-SiO<sub>2</sub>, so the statement of the rejection and the teachings of the references address the embodiments of the claims, specifically where a TiON or TaON layer is between the recording layer and the ZnS-SiO<sub>2</sub>. The arguments of the applicant are incongruent with the claims and fails to appreciate the statement of rejection. While Takaoka et al. '321 may address the recording layers from different sides, there are no layers between the recording layers which would preclude both being addressed from one side and the Shuy et al. '160 reference does not include a non-alloying reflective layer, so light can be incident from either side. The claims now also recite this.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

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improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1,2,7,10,13,16,17,19 and 22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/684981 (US 2004/0076907) .

It would have been obvious to use the dielectric layers described in claims 1 and 2 in the claimed optical recording media of 10/684981 , but having different compositions and including additives to the Cu layer (cl 4).

This is a provisional obviousness-type double patenting rejection.

(appeal 12/12/2007)

The applicant argues that as allowance of the instant application has not been reached, the terminal disclaimers need not be filed. This position is reasonable, but would delay allowance if those were the only remaining issues. The applicant also argues that the prosecution of at least some of the other applications is behind that of the instant application, so they would not issue later. This position neglects the fact , that while the PTO controls the allowance of the

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application, it has no control over delays in issuance due to other factors, such as the speed at which fees are paid, and so it can easily be envisioned that the order of issuance would differ from the order of allowance. The claim 1 of 10/684981 allows the first and second dielectric layer to be on the same side.

6. Claims 1-3,7,10,13,16,19,22 and 25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-19 of copending Application No. 10/764805 (US 2004/0157158) in view of Sakaue et al. '587 or Uno et al. '239.

It would have been obvious to modify the claimed optical recording media of 10/764805 by using Ta-O-N as the first dielectric layers on both sides of the recording layer (claim 7) with a reasonable expectation of forming a useful optical recording medium based upon the disclosure of Sakaue et al. '587 or Uno et al. '239.

This is a provisional obviousness-type double patenting rejection.

Final rejection 04/04/07

The response above is relied upon as no separate arguments were directed at this rejection.

7. Claims 1-3,7,10,13,16,19,22 and 25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-26 of copending Application No. 10/792083 (US 2004/0174804) in view of Sakaue et al. '587 or Uno et al. '239.

It would have been obvious to modify the claimed optical recording media of 10/612615 by using Ti-O-N as one of the light transmission layers, in place of TiO with a reasonable

expectation of forming a useful optical recording medium based upon the disclosure of Sakaue et al. '587 or Uno et al. '239.

This is a provisional obviousness-type double patenting rejection.

Nonfinal rejection 04/05/07

The response above is relied upon as no separate arguments were directed at this rejection.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin J Angebranndt/  
Primary Examiner, Art Unit 1795

Martin J Angebranndt  
Primary Examiner  
Art Unit 1795

3/5/2008



EXPRESS MAIL NO. EV889129626US

Sheet 1 of 9

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
**INFORMATION DISCLOSURE STATEMENT**  
(Use several sheets if necessary)

ATTY. DOCKET NO. 890050.449	APPLICATION NO. 10/717,831
APPLICANTS Hironori Kakiuchi et al.	
FILING DATE November 20, 2003	GROUP ART UNIT 1756

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
W	AA 3,959,799	05/25/76	Gambino et al.	346	135	
W	AB 4,357,616	11/02/82	Terao et al.	346	135.1	
W	AC 4,405,706	09/20/83	Takahashi et al.	430	271	
W	AD 4,477,819	10/16/84	Lee et al.	346	76 L	
W	AE 4,500,889	02/19/85	Wada et al.	346	1.1	
W	AF 4,529,991	07/16/85	Wada et al.	346	76 L	
W	AO 4,587,533	05/06/86	Nakane et al.	346	135.1	
W	AH 4,609,611	09/02/86	Sigyo et al.	430	270	
W	AI 4,647,947	03/03/87	Takeoka et al.	346	135.1	
W	AJ 4,670,345	06/02/87	Morimoto et al.	428	411.1	

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
				YES	NO
W	AK 1330368 A	01/09/02	China (with English abstract)		
W	AL 1365108 A	08/21/02	China (with English abstract)		
W	AM 0350078 A1	01/10/90	EP		
W	AN 0474311 A1	03/11/92	EP		
W	AO 0822543 A1	02/04/98	EP		
W	AP 0947351 B1	09/26/02	EP		
W	AQ 0978831 A2	02/09/00	EP		
W	AR 1028421 A2	08/16/00	EP		
W	AS 1139340 B1	06/16/04	EP		

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

W AT Inoue, H., et al., "Inorganic Write-Once Disc for High Speed Recording," Jpn. J. Appl. Phys. Vol. 42, part 1, no. 2B, pp. 1059-1061, February 2003.

EXAMINER *W* DATE CONSIDERED *5/11/07*

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 890050.449	APPLICATION NO. 10/717,831
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANTS Hironori Kakiuchi et al.	
		FILING DATE November 20, 2003	GROUP ART UNIT 1756

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
<i>m</i>	BA	4,682,321	07/21/87	Takaoka et al.	369	284	
<i>m</i>	BB	4,771,413	09/15/88	Nago	369	109	
<i>m</i>	BC	4,772,897	09/20/88	Ohkawa	346	135.1	
<i>m</i>	BD	5,194,363	03/16/93	Yoshioka et al.	430	271	
<i>m</i>	BE	5,208,088	05/04/93	Tominaga et al.	428	64	
<i>m</i>	BF	5,297,132	03/22/94	Takano et al.	369	284	
<i>m</i>	BO	5,325,351	06/28/94	Uchiyama et al.	369	275.1	
<i>m</i>	BH	5,328,813	07/12/94	Strandjord et al.	430	321	
<i>m</i>	BI	5,401,330	03/28/95	Saito et al.	136	259	
<i>m</i>	BJ	5,414,451	05/09/95	Sugiyama et al.	347	258	

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
<i>m</i>	BK	1154413 A2	11/14/01	EP		
<i>m</i>	BL	1215669 A2	06/19/02	EP		
<i>m</i>	BM	1351230 A2	10/08/03	EP		
<i>m</i>	BN	2336463	10/20/99	GB		
<i>m</i>	BO	48-38 000038	01/05/73	JP		
<i>m</i>	BP	03-005929	01/11/91	JP (with English abstract)		
<i>m</i>	BQ	03-258590	11/18/91	JP (with English abstract)		
<i>m</i>	BR	05-159358	06/28/93	JP (with English abstract)		

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>m</i>	BS	Narumi, K. et al., "45 GB Rewritable Dual-Layer Phase-Change Optical Disk with a Transmittance Balanced Structure," Technical Digest, International Symposium on Optical Memory 2001, Grand Hotel, Taipei, Taiwan, October 16-19, 2001, pages 202-203.
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EXAMINER *m* DATE CONSIDERED *8/21/07*

\* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. <b>890050.449</b>	APPLICATION NO. <b>10/717,831</b>
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANTS <b>Hironori Kakiuchi et al.</b>	
		FILING DATE <b>November 20, 2003</b>	GROUP ART UNIT <b>1756</b>

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
mr	CA 5,458,941	10/11/95	Hintz	428	64.4	
q	CB 5,459,018	10/11/95	Akahira	430	270	
mr	CC 5,560,998	10/01/96	Oyamatsu et al.	428	694 ML	
mr	CD 5,656,370	08/12/97	Murakami et al.	428	332	
lc	CE 5,818,808	10/06/98	Takada et al.	369	116	
cl	CF 5,871,881	02/16/99	Nishida et al.	430	270.11	
mr	CG 5,912,104	06/15/99	Hirotsune et al.	430	270.13	
mr	CH 5,948,496	09/01/99	Kinoshita et al.	428	64.1	
mr	CI 5,949,747	09/01/99	Miyashita et al.	369	54	
lly	CI 5,958,649	09/28/99	Hirotsune et al.	430	270.13	

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
				YES	NO
mr	CK 05-342631	12/24/93	JP (with English abstract)		
mr	CL 05-342635	12/24/93	JP (with English abstract)		
mr	CM 10-076755	03/24/98	JP (with English abstract)		
mr	CN 1-270528	10/27/89	JP (with English abstract)		
mr	CO 2000-187884	07/04/00	JP (with English abstract)		
mr	CP 2000-222764	08/11/00	JP (with English abstract)		
mr	CQ 2000-285509	10/13/00	JP (with English abstract)		
mr	CR 2000-297365	10/24/00	JP (with English abstract)		

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

mr	CS	Nikkei Electronics, May 12, 2003, pp. 119-133. (in Japanese)	DATE CONSIDERED <i>8/21/02</i>
* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).			

EXPRESS MAIL NO. EV889129626US  
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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 890050.449	APPLICATION NO. 10/717,831
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANTS Hironori Kakiuchi et al.	
		FILING DATE November 20, 2003	GROUP ART UNIT 1756

### U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
✓	DA	6,033,752	03/07/00	Suzuki et al.	428	64.1	
✓	DB	6,096,399	08/01/00	Yoshinari et al.	428	64.1	
✓	DC	6,111,851	08/29/00	Ohki et al.	369	286	
✓	DD	6,143,469	11/07/00	Ohta et al.	430	270.13	
✓	DE	6,210,860	04/03/01	Fukano et al.	430	270.12	
✓	DF	6,231,945	05/18/01	Miyamoto et al.	428	64.1	
✓	DG	6,245,404	06/12/01	Saito et al.	428	64.1	
✓	DH	6,254,966	07/03/01	Kondo	428	156	
✓	DI	6,266,299	07/24/01	Oshima et al.	369	13	
✓	DJ	6,278,680	08/21/01	Miyauchi et al.	369	112.01	
✓	DK	6,333,913	12/26/01	Yoshinari et al.	369	283	

### FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
				YES	NO
✓	DL	2001-101709	04/13/01	JP (with English abstract)	
✓	DM	2001-222819	08/11/01	JP (with English abstract)	
✓	DN	2001-266402	09/26/01	JP (with English abstract)	
✓	DO	2001-322357	11/20/01	JP (with English abstract)	
✓	DP	2002-120458	04/23/02	JP (with English abstract)	
✓	DQ	2002-269808	09/20/02	JP (with English abstract)	
✓	DR	2002-329348	11/15/02	JP (with English abstract)	
✓	DS	2003-105738	04/09/03	JP (with English abstract)	
✓	DT	2003-178448	06/27/03	JP (with English abstract)	

### OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

DU	
EXAMINER	<i>ref</i>
DATE CONSIDERED	<i>8/21/03</i>
* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).	

EXPRESS MAIL NO. EV889129626US  
Sheet 5 of 9

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 890050.449	APPLICATION NO. 10/717,831
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		APPLICANTS Hironori Kakiuchi et al.	
		FILING DATE November 20, 2003	GROUP ART UNIT 1756

#### U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
UR	EA	6,355,326	03/12/02	Lee et al.	428	64.1	
UR	EB	6,404,712	06/11/02	Lee et al.	369	47.53	
UR	EC	6,404,713	06/11/02	Ueki	369	47.53	
UR	ED	6,416,837	07/09/02	Kojima et al.	428	64.1	
UR	EE	6,528,138	03/04/03	Meinders et al.	428	64.1	
UR	EF	6,551,679	04/22/03	Kuroda et al.	428	64.1	
UR	EG	6,608,799	08/19/03	Hozumi	369	13.26	
UR	EH	6,611,481	08/26/03	Koishi et al.	369	47.53	
UR	EI	6,636,477	10/21/03	Miyamoto et al.	369	286	
UR	EJ	6,656,559	12/02/03	Mizushima et al.	428	64.1	
UR	EK	6,660,451	12/09/03	Sakaue et al.	430	270.13	

#### FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES      NO
UR	EL	2003-260874	09/16/03	JP (with English abstract)	
UR	EM	2003-326848	11/19/03	JP (with English abstract)	
UR	EN	2003-054135	02/26/03	JP (with English abstract)	
UR	EO	2004-158134	06/03/04	JP (with English abstract)	
UR	EP	2004-039177	02/08/04	JP (with English abstract)	
UR	EQ	2004-087073	03/18/04	JP (with English abstract)	
UR	ER	3-49054	03/01/91	JP (with English abstract)	
	ES				

#### OTHER PRIOR ART (including Author, Title, Date, Pertinent Pages, Etc.)

ET			
EXAMINER	<i>Ref A</i>		DATE CONSIDERED <i>8/21/07</i>
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		APPLICANTS	
		Hironori Kakiuchi et al.	
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**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
W	FA	6,670,014	12/30/03	Nishihara et al.	428	64.1	
W	FB	6,751,184	06/18/04	Kojima et al.	369	275.2	
W	FC	6,788,635	09/01/04	Aratani et al.	369	100	
W	FD	6,791,926	09/14/04	Furumiya et al.	369	53.13	
Y	FE	6,805,935	10/19/04	Ashida et al.	428	64.1	
W	FF	6,807,142	10/19/04	Nagata et al.	369	275.2	
W	FG	6,841,218	01/11/05	Hosoda et al.	428	64.1	
W	FH	6,929,840	08/16/05	Hosoda et al.	428	64.1	
W	FI	6,982,111	01/03/06	Mizushima et al.	428	64.1	
W	FJ	6,996,055	02/07/06	Mishima et al.	369	283	
W	FK	7,002,887	02/21/06	Kakiuchi et al.	369	59.12	

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION
					YES    NO
W	FL	4-298389	10/22/92	JP (with English abstract)	
W	FM	54-133134	10/16/79	JP (with English abstract)	
W	FN	56-124134	09/29/81	JP (with English abstract)	
W	FO	57-027788	02/18/82	JP (with English abstract)	
W	FP	59-225992	12/19/84	JP (with English abstract)	
W	FQ	60-160036	08/21/85	JP (with English abstract)	
W	FR	60-219097	11/01/85	JP (with English abstract)	
W	FS	6-171236	06/21/94	JP (with English abstract)	

**OTHER PRIOR ART** (Including Author, Title, Date, Pertinent Pages, Etc.)

FT		
EXAMINER	DATE CONSIDERED	
<i>W</i>	11/21/07	

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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
W	GA	7,018,694	03/28/06	Hosoda et al.	428	64.1	
W	GB	7,142,496	11/28/06	Miyagawa et al.	369	59.11	
W	GC	7,167,431	01/23/07	Miura et al.	369	59.11	
W	GD	2001/0012257	08/09/01	Suzuki et al.	369	94	
W	GE	2001/0017833	08/30/01	Yamada et al.	369	59.11	
W	GF	2001/0041304	11/15/01	Uno et al.	430	270.13	
W	GG	2001/0044073	11/21/01	Fukano et al.	430	270.12	
W	GH	2002/0060979	05/23/02	Tsukuda et al.	369	275.4	
W	GI	2002/0076646	06/26/02	Zhou et al.	430	270.13	
W	GJ	2002/0110063	08/15/02	Yamada et al.	369	47.39	
W	GK	2002/0160306	10/31/02	Hanaoka et al.	430	270.13	
W	GL	2003/0086359	05/08/03	Lee et al.	369	275.3	
W	GM	2003/0134229	07/17/03	Yasuda et al.	430	270.13	
W	GN	2003/0165111	09/04/03	Flynn	369	288	
W	GO	2003/0224215	12/04/03	Kondo et al.	428	694 ML	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION
					YES    NO
W	GP	62-204442	09/08/87	JP (with English abstract)	
W	GQ	62-226440	10/05/87	JP (with English abstract)	
W	GR	62-226442	10/06/87	JP (with English abstract)	
W	GS	62-245545	10/26/87	JP (with English abstract)	

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

GT			
EXAMINER	<i>W</i>		DATE CONSIDERED <i>01/10/07</i>

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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
ur	HA	2003/0228539	12/11/03	Hosoda et al.	430	270.13	
ur	HB	2004/0001418	01/01/04	Shinotsuka et al.	369	111	
ur	HC	2004/0013069	01/22/04	Uno et al.	369	59.11	
ur	HD	2004/0018334	01/29/04	Nee	428	64.1	
ur	HE	2004/0027652	02/12/04	Erdogan et al.	359	359	
ur	HF	2004/0052176	03/18/04	Narumi et al.	369	47.39	
ur	HO	2004/0241581	12/02/04	Kakiuchi et al.	430	270.12	
ur	HH	2005/0018590	01/21/05	Inoue et al.	369	275.2	
ur	HI	2005/0018591	01/27/05	Inoue et al.	369	275.2	
ur	HJ	2005/0018592	01/27/05	Inoue et al.	369	275.2	

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		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES      NO
ur	HK	6-262854	09/20/94	JP (with English abstract)	
ur	HL	7-235465	09/05/95	JP (with English abstract)	
ur	HM	9-007176	01/10/97	JP (with English abstract)	
ur	HN	01/93256 A1	12/06/01	WO (with English abstract)	
ur	HO	02/29787	04/11/02	WO (with English abstract)	
ur	HP	03/025924	03/27/03	WO (with English abstract)	
ur	HQ	1122723 A1	08/08/01	EP	
ur	HR	10-143919	05/29/98	JP (with English abstract)	
	HS				

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EXAMINER	<i>A. J. H.</i>	DATE CONSIDERED <i>8/21/07</i>
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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
W	IA	2005/0047301	03/03/05	Inoue et al.	369	94	
W	IB	2005/0047302	03/03/05	Inoue et al.	369	94	
W	IC	2005/0047303	03/03/05	Inoue et al.	369	94	
W	ID	2005/0047304	03/03/05	Inoue et al.	369	94	
W	IE	2005/0047305	03/03/05	Inoue et al.	369	94	
W	IF	2005/0047306	03/03/05	Inoue et al.	369	94	
W	IG	2005/0048249	03/03/05	Inoue et al.	428	64.4	
	IH						
	II						
	U						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION
					YES NO
	IK				
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	IN				
	IO				
	IP				
	IQ				
	IR				

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IS

EXAMINER *[Signature]* DATE CONSIDERED *8/21/07*

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